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REMARKS

Claims 1, 2, 5-10, and 13-19 are all the claims presently pending in the application. Claims 3, 4, 11, and 12 have been cancelled. Claims 1, 2, 5-7, 9, 10, and 14-19 have been amended to more particularly define the invention. No new matter is added.

It is noted that the claim amendments are made only for more particularly pointing out the invention, and not for distinguishing the invention over the prior art, narrowing the claims or for any statutory requirements of patentability. Further, Applicant specifically states that no amendment to any claim herein should be construed as a disclaimer of any interest in or right to an equivalent of any element or feature of the amended claim.

Entry of this § 1.116 Amendment is proper. Since the Amendments above narrow the issues for appeal and since such features and their distinctions over the prior art of record were discussed earlier, such amendments do not raise a new issue requiring a further search and/or consideration by the Examiner. As such, entry of this Amendment is believed proper and Applicant earnestly solicits entry.

Claims 1, 2, 5, 6, 10, 13, 15, 16, and 18 stand rejected under 35 U.S.C. § 102(b) as being allegedly anticipated by Harada et al. (Japan Patent Publication No. 2000 - 219530).

Claims 7-9 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Harada in view of Yamamura et al. (U.S. Patent No. 6,742,363 B1). Claims 14 and 19 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Harada in view of Katayama (U.S. Patent No. 7,170,603 B2). Claim 17 stands rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Harada in view of Zushi et al. (U.S. Patent No. 5,354,348).

The rejections mentioned above are respectfully traversed in the following discussion.

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I. THE CLAIMED INVENTION

An exemplary aspect of the claimed invention (e.g., as recited in claim 1) is directed to an elongating method of an optical fiber base material. In an elongating process of elongating an optical fiber base material by heating the optical fiber base material in a heating furnace such that a diameter of the optical fiber base material is reduced, before the optical fiber base material having a distorted portion is elongated from an end thereof, the distorted portion of the optical fiber base material is corrected by being heated to be softened in the heating furnace such that the distorted portion is corrected by its own weight. The elongation is started after the optical fiber base material is attached to a hanging mechanism such that the optical fiber base material is hung in the heating furnace, after the distorted portion of the optical fiber base material is heated to be softened, and after a difference between an elongation axis and an end of one of the optical fiber base material and a dummy rod attached to the optical fiber base material is reduced and judged to be 10 mm or less.

Conventional methods of elongating an optical fiber base material in a heated furnace have become increasingly important in manufacturing optical fiber base materials with larger outer diameters. However, the conventional method may produce an optical fiber base material having distortion in its end portion and, subsequently, possesses several drawbacks in dealing with this distortion. Where an optical fiber base material has a large outer diameter, a typically implemented glass lathe cannot be used to correct the distortion. In addition, attempting to correct the distortion can cause the optical fiber base material to be in contact with the heater. Also, if a dummy rod is provided in the vicinity of the distorted end portion, a rod break may occur. Finally, certain methods of preventing the rod from breaking cannot be used when elongating an optical fiber base material by a roller (Application at pages 2-3, paragraphs 6-9).

On the other hand, the aforementioned exemplary aspect of the claimed invention may include an elongating method of an optical fiber base material where the elongation is started

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after a difference between an elongation axis and an end of one of the optical fiber base material and a dummy rod attached to the optical fiber base material is reduced and judged to be 10 mm or less (Application at page, paragraphs 12-13).

This feature may provide an elongating method of an optical fiber base material that enables the prevention of a dummy rod from breaking under stress, the reduction of the temperature needed to operate the process, the reduction of the size of the heating furnace, and the reduction of distortion such that a smaller outer diameter might be realized (Application at page 4, paragraphs 14-16).

II. THE PRIOR ART REJECTIONS

A. The Harada Reference

Harada discloses a method of the production of an optical fiber preform. The Examiner alleges Harada anticipates the claimed invention. Applicant respectfully disagrees.

Specifically, Harada fails to teach or suggest an elongating method of an optical fiber base material "wherein the elongation is started . . . after a difference between an elongation axis and an end of one of the optical fiber base material and a dummy rod attached to the optical fiber base material is reduced and judged to be 10 mm or less", as recited, for example, in claim 1 (Application at page, paragraphs 12-13).

As previously mentioned, this feature may provide an elongating method of an optical fiber base material that enables the prevention of a dummy rod from breaking under stress, the reduction of the temperature needed to operate the process, the reduction of the size of the heating furnace, and the reduction of distortion such that a smaller outer diameter might be realized (Application at page 4, paragraphs 14-16).

An exemplary aspect of the claimed invention disclosed in paragraph 21 of the specification as filed includes that, before the elongating is started, it is examined whether the

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distorted portion is corrected or not. Specifically, the elongation is started after a difference between an elongation axis and an end of one of the optical fiber base material and a dummy rod attached to the optical fiber base material is reduced and judged to be 10 mm or less.

Thus, an exemplary aspect of the claimed invention disclosed in paragraph 30 of the specification possesses an advantage, in that the produced optical fiber base material is so accurately straight that it can be used for a glass rod, and is excellently applicable to a variety of uses.

On the other hand, Harada fails to teach or suggest the above feature of the claimed invention. The Examiner alleges that Harada teaches all features of the claimed invention. Specifically, according to the Examiner's position stated in page 3 of the Office Action, "in the elongating method of an optical fiber base material shown in Figure 1 of Harada, inherently as the heat is applied with the weight secured at the bottom of the glass rod, the distorted portion which is located at the heating portion of the glass rod is pulled straight, and then the elongation process starts."

However, Applicant disagrees with the Examiner's position. Specifically, the "elongating method of an optical fiber base material" disclosed in Harada fails to teach or suggest that the elongation is started after a difference between an elongation axis and an end of one of the optical fiber base material and a dummy rod attached to the optical fiber base material is reduced and judged to be 10 mm or less.

In other words, Harada fails to teach or suggest how much the distorted portion is corrected. Accordingly, Harada cannot accomplish the same advantage as that of the claimed invention. Further, Applicant respectfully submits that the advantage of the claimed invention is not predictable with a reasonable expectation of success, even assuming (arguendo) combination with the Examiner's applied prior art references. Namely, even assuming (arguendo)

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combination with the Examiner's applied prior art references, Harada fails to make the claimed invention obvious.

In addition, Applicant respectfully notes that the Examiner fails to even address the feature "wherein the elongation is started . . . after a difference between an elongation axis and an end of one of the optical fiber base material and a dummy rod attached to the optical fiber base material is reduced and judged to be 10 mm or less" in the Office Action. There is no discussion by the Examiner regarding this feature. Thus, Examiner failed to particularly point out any rationale for rejecting this feature. Therefore, the Office Action is incomplete. Applicant respectfully requests the Examiner to issue a new Office Action that particularly points out which applied prior art reference is used to reject this feature and the rationale behind the rejection.

Therefore, Applicant respectfully requests the Examiner to reconsider and withdraw this rejection.

B. The Yamamura Reference

To make up for the deficiencies of Harada, the Examiner attempts to modify Harada with Yamamura. Yamamura discloses a method of straightening a glass rod for use in making an optical fiber perform (Yamamura at Abstract). The Examiner alleges that the combination of Harada and Yamamura makes the invention of claims 7-9 obvious.

However, even assuming (arguendo) Harada and Yamamura were combined, Applicant respectfully submits that the resultant combination does not teach or suggest each and every element of the claimed invention. Specifically, Yamamura, like Harada, fails to teach or suggest an elongating method of an optical fiber base material "wherein the elongation is started . . . after a difference between an elongation axis and an end of one of the optical fiber base material and a dummy rod attached to the optical fiber base material is reduced and judged to be 10 mm or less", as recited, for example, in claim 1 (Application at page, paragraphs 12-13).

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The Examiner alleges that Yamamura teaches a laser beam diameter measuring device for detecting the diameter of a glass material so that a uniform diameter fiber can be produced with minimal attenuation characteristics. However, Yamamura fails to teach or suggest the above mentioned exemplary feature of the claimed invention, much less the invention of claims 7-9.

Therefore, even assuming (arguendo) Yamamura would have been combined with Harada, the alleged combination still leaves the deficiencies referenced previously in Section A. Therefore, Applicant respectfully requests the Examiner to reconsider and withdraw this rejection.

C. The Katayama Reference

To make up for the deficiencies of Harada, the Examiner attempts to modify Harada with Katayama. Katayama discloses an exposure apparatus including an image sensing section (Katayama at Abstract). The Examiner alleges that the combination of Harada and Katayama makes the invention of claims 14 and 19 obvious.

However, even assuming (arguendo) Harada and Katayama were combined, Applicant respectfully submits that the resultant combination does not teach or suggest each and every element of the claimed invention. Specifically, Katayama, like Harada, fails to teach or suggest an elongating method of an optical fiber base material "wherein the elongation is started . . . after a difference between an elongation axis and an end of one of the optical fiber base material and a dummy rod attached to the optical fiber base material is reduced and judged to be 10 mm or less", as recited, for example, in claim 1 (Application at page, paragraphs 12-13).

The Examiner alleges that column 12, lines 46-48 of Katayama teaches using a CCD camera as a feedback mechanism to control an alignment method. However, Katayama fails to teach or suggest the above mentioned exemplary feature of the claimed invention, much less the invention of claims 14 and 19.

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Therefore, even assuming (arguendo) Katayama would have been combined with Harada, the alleged combination still leaves the deficiencies referenced previously in Section A. Therefore, Applicant respectfully requests the Examiner to reconsider and withdraw this rejection.

D. The Zushi Reference

To make up for the deficiencies of Harada, the Examiner attempts to modify Harada with Zushi. Zushi discloses a method for producing a silica glass optical fiber (Zushi at Abstract). The Examiner alleges that the combination of Harada and Zushi makes the invention of claim 17 obvious.

However, even assuming (arguendo) Harada and Zushi were combined, Applicant respectfully submits that the resultant combination does not teach or suggest each and every element of the claimed invention. Specifically, Zushi, like Harada, fails to teach or suggest an elongating method of an optical fiber base material "wherein the elongation is started . . . after a difference between an elongation axis and an end of one of the optical fiber base material and a dummy rod attached to the optical fiber base material is reduced and judged to be 10 mm or less", as recited, for example, in claim 1 (Application at page, paragraphs 12-13).

The Examiner alleges that column 8, lines 17-21 of Zushi teaches using silicon nitride ceramics in an elongation support. However, Zushi fails to teach or suggest the above mentioned exemplary feature of the claimed invention, much less the invention of claim 17.

Therefore, even assuming (arguendo) Zushi would have been combined with Harada, the alleged combination still leaves the deficiencies referenced previously in Section A. Therefore, Applicant respectfully requests the Examiner to reconsider and withdraw this rejection.

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III. FORMAL MATTERS AND CONCLUSION

With respect to the Examiner's objection, the objected claim has been amended in a manner fully responsive to the Examiner's objections.

In view of the foregoing, Applicant submits that claims 1, 2, 5-10, and 13-19, all the claims presently pending in the application, are patentably distinct over the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

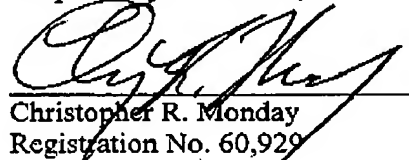
Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

The Commissioner is hereby authorized to charge any deficiency in fees or to credit any overpayment in fees to Attorney's Deposit Account No. 50-0481.

Date:

April 11, 2008

Respectfully Submitted,


Christopher R. Monday
Registration No. 60,929

Sean M. McGinn
Registration No. 34,386

McGinn IP Law Group, PLLC
8321 Old Courthouse Road, Suite 200
Vienna, Virginia 22182-3817
(703) 761-4100
Customer No. 21254